CLAIMS

The invention claimed is:

1. A supply chain management system comprising:

a knowledge base including expert knowledge about one or more business process domains;

an inference engine coupled to the knowledge base, the inference engine including a partial order planner;

a management system that collects and distributes data regarding one or more business processes and determines one or more goals; and

a graphical user interface system that displays information regarding the one or more business processes;

wherein the inference engine uses the partial order planner to determine a plan for achieving at least one of the one or more goals.

2. The system of claim 1, wherein the knowledge base includes one or more plan-goal graphs.

3. The system of claim 1, wherein the knowledge base includes one or more concept graphs.

4. The system of claim 3, wherein the inference engine creates one or more plan instances.

5. The system of claim 3, wherein at least one of the one or more concept graphs includes a non-monotonic model of economic benefit provided by the plan instances created by the inference engine.

6. The system of claim 4, wherein the inference engine manages life cycle states of the one or more plan instances according to a commitment level of the partial order planner.

7. The system of claim 6, wherein the inference engine manages monitoring of the situation using the one or more concept graphs according to the life cycle states of the one or more plan instances.

8. The system of claim 7, wherein the inference engine determines what further processing is needed by the partial order planner based on the monitoring of the situation.

9. The system of claim 1, wherein the knowledge base includes one or more scripts, each of the one or more scripts comprising a sequence of fully or partially-specified actions.

10. The system of claim 1, wherein the inference engine includes an intent interpreter.

11. The system of claim 1, wherein the inference engine includes a non-monotonic truth maintenance system.

12. The system of claim 1, wherein the knowledge base includes tables of data, each table storing zero or more data records.

13. The system of claim 12, further comprising a data security mechanism that protects data stored in the knowledge base.

14. The system of claim 13, wherein the data security mechanism maintains an access control list for one or more tables in the knowledge base.

15. The system of claim 14, wherein the data security mechanism maintains an access control list for one or more data records in the knowledge base.

16. The system of claim 1, wherein the partial order planner is a least commitment planner.

17. A method for conducting supply chain management, the method comprising:

determining a goal for a supply chain participant; and

using a knowledge base to create a plan for meeting the determined goal.

18. The method of claim 17, wherein the act of determining a goal for a supply chain participant and creating a plan for meeting the goal is performed using a partial order planner.

19. The method of claim 18, wherein the partial order planner is a least commitment planner.

20. The method of claim 17, wherein the act of determining a goal for a supply chain participant is performed using a non-monotonic truth maintenance system.

21. The method of claim 17, wherein the knowledge base includes one or more plan-goal graphs.

22. The method of claim 17, wherein the knowledge base includes one or more concept graphs.

23. A supply chain management system comprising:

a plurality of intelligent agents, each of the plurality of intelligent agents including:

a knowledge base including expert knowledge about one or more business process domains;

an inference engine coupled to the knowledge base, the inference engine including a partial order planner;

a data management system that collects and distributes data regarding one or more business processes; and

a graphical user interface system that displays information regarding the one or more business processes.

24. The supply chain management system of claim 23, wherein the knowledge base includes one or more concept graphs.

25. The supply chain management system of claim 24, wherein each agent of the plurality of intelligent agents determines the intentions of one or more users and wherein the data management system of a first agent of the plurality of intelligent agents shares data with a second agent of the plurality of intelligent agents representing the determined intentions of the one or more users to facilitate collaboration.

26. The supply chain management system of claim 25, wherein the system uses the shared data to automatically detect conflicts between the one or more users.